REMARKS

Applicants have received and reviewed an Office Action dated December 2, 2005. By way of response, Applicants present the following remarks. No new matter is presented. Claims 1-9 are pending. Applicants submit that the pending claims are supported by the specification.

For the reasons given below, Applicants submit that the claims are in condition for allowance and notification to that effect is earnestly solicited.

Rejection of Claims Under § 103(a)

The Examiner rejected claims 1, 3, 4, 6, and 7 under 35 U.S.C. § 103(a) as being obvious over Porter et al. (US 2005/0089901) in view of Jacobson et al. (U.S. 6,323,989). The Examiner rejected claims 2, 5, 8, and 9 under 35 U.S.C. § 103(a) as being obvious over Porter et al. (US 2005/0089901) in view of Jacobson et al. (U.S. 6,323,989) and further in view of the Cao et al. reference. Applicants respectfully traverse these rejections.

Porter et al. In View of Jacobson et al. Neither Teaches Nor Suggests the Presently Claimed Invention

The presently claimed invention includes "forming a first detector complex electrochemically". Electrochemistry refers to chemical reactions driven by electrical energy. Chemical reactions include a change in the arrangement of atoms or molecules to yield substances of different composition and properties.

The Office Action admits that the primary Porter et al. reference fails to teach or suggest the presently claimed invention employing a detector complex formed on a conductive substrate electrochemically. The Office Action employs the secondary Jacobson et al. reference to remedy this shortcoming of the primary reference.

The Jacobson et al. reference, however, does not disclose electrochemistry. The Jacobson et al. reference discloses manipulating charged nanoparticles electrostatically (columns 10 and 11). In the presence of an electric field, a charged nanoparticle is attracted to or repelled from another charged moiety, according to the Jacobson et al. reference. This is an electrostatic interaction, which Jacobson et al. employ in an electrophoretic display (electrophoresis refers to movement of charges in a field).

Electrostatics and electrophoresis are distinct from the presently claimed electrochemical process. Electrostatics and electrophoresis refer to movement of charged

particles in a field. Electrochemistry refers to chemical reactions driven by electrical energy. Moving charged particles in a field is distinctly different from the presently claimed chemical reactions driven by electrical energy.

Thus, the presently claimed methods including forming a detector complex electrochemically are neither taught nor suggested by disclosure of electrostatics moving charged particles.

The Office Action admits that the Porter et al. reference does not disclose or suggest the presently claimed invention. The Jacobson et al. reference does not remedy the shortcomings of the Porter et al. reference. Accordingly, this combination of references neither teaches nor suggests the presently claimed invention, and withdrawal of this rejection is respectfully requested.

Additional Shortcomings of the Porter et al. Reference

The Office Action asserts that the Porter et al. reference discloses methods for detecting a biomolecule employing two nanoparticles. Applicants respectfully disagree. The Porter et al. reference discloses a method employing a single nanoparticle referred to as a "surface enhancing particle".

The Office Action asserts that the Porter et al. "Raman-active reporter molecule" is a second nanoparticle. Applicants respectfully disagree. A molecule is not a nanoparticle. Paragraphs 46 and 47 of the Porter et al. application list numerous molecules that enhance a Raman signal. Many of the listed molecules are dyes. The very end of paragraph 46 indicates that the reporter molecule can be a "polymeric particle".

Nowhere does the Porter et al. reference disclose or suggest that this polymeric particle might be a nanoparticle or that it might be suitable for an electrochemical reaction with a nanoparticle or anything else. In contrast, the presently claimed method provides that the detector complex is formed "electrochemically".

Further, at page 10, paragraphs 29-31, the present specification indicates that the present invention employs nanoparticles made from materials such as "semiconductive materials (e.g., silicon) and metals such as gold, silver, nickel, copper and platinum" and "metal nanoparticles and metal nanoparticle precursors." Such nanoparticles can undergo electrochemical interactions to form a first detector complex.

Accordingly, based on the foregoing differences, it is submitted that the references cited in the prior art rejection neither teach nor suggest the presently claimed method, and withdrawal of this rejection is respectfully requested.

Summary

In summary, Applicants submit that each of claims 1-9 are in condition for allowance. The Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below, if the Examiner believes that doing so will expedite prosecution of this application.

Respectfully submitted,

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